WHAT IS CLAIMED IS:

1. A system for conducting lupus phototherapy, comprising:

a chamber; and

a nanostructure UV light emitting device disposed in the chamber; wherein the UV light emitting device emits UV light in a wavelength range suitable for performing lupus phototherapy.

2. The system of claim 1, wherein the chamber comprises a bed or a booth.

3. The system of claim 1, wherein the nanostructure UV light emitting device comprises at least one of a nanoparticle and a nanowire UVA light emitting device, the system further comprising a UV excitation source which is positioned to provide UV excitation radiation of a first peak wavelength onto the nanostructure UV light emitting device to cause the nanostructure UV light emitting device to emit UVA light having a second UVA peak wavelength longer than the first peak wavelength.

4. The system of claim 3, wherein the UV light emitting device comprises nanoparticles having an average diameter smaller than 100 nm.

5. The system of claim 3, wherein the UV light emitting device comprises nanowires having an average thickness smaller than 150 nm.

6. The system of claim 3, wherein the UV light emitting device comprises:

a first layer of first nanoparticles or nanowires located proximal to the UV excitation source, wherein the first nanoparticles or nanowires emit UV light of a third peak wavelength longer than the first peak wavelength when irradiated with the UV excitation radiation; and

a second layer of second nanoparticles or nanowires located distal from the UV excitation source, such that the first layer is located between the second layer and the UV excitation source, wherein the second nanoparticles or nanowires emit UV

light of the second peak wavelength longer than the third peak wavelength when irradiated with the UV light from the nanoparticles or nanowires of the first layer.

7. The system of claim 1, wherein the UV light comprises light with a wavelength of about 340 nm to about 400 nm.

8. The system of claim 1, wherein the nanostructure UV light emitting device is adapted to provide UV light having an adjustable wavelength range.

9. A method for conducting lupus phototherapy, comprising providing UV light from a nanostructure UV light emitting device onto the skin of a human subject having lupus, wherein the UV light emitting device emits UV light in a wavelength range suitable for performing lupus phototherapy.

10. The method of claim 9, further comprising adjusting the wavelength range of the UV light during the phototherapy.

11. The method of claim 9, wherein the chamber comprises a bed or a booth.

12. The method of claim 9, wherein the nanostructure UV light emitting device comprises at least one of a nanoparticle and a nanowire UVA light emitting device, the method further comprising:

providing UV excitation radiation of a first peak wavelength from a UV excitation source to the UV light emitting device; and

emitting the UV light having a second UV peak wavelength longer than the first peak wavelength from the UV light emitting device in response to the provided UV excitation radiation.

13. A system for conducting psoriasis phototherapy, comprising:

a chamber; and

a nanostructure UV light emitting device disposed in the chamber; wherein the UV light emitting device emits UV light in a wavelength range suitable for performing psoriasis phototherapy.

14. The system of claim 13, wherein the nanostructure UV light emitting device comprises at least one of a nanoparticle and a nanowire UVA light emitting device, the system further comprising a UV excitation source which is positioned to provide UV excitation radiation of a first peak wavelength onto the nanostructure UV light emitting device to cause the nanostructure UV light emitting device to emit UVA light having a second UVA peak wavelength longer than the first peak wavelength.

15. The system of claim 13, wherein the UV light is emitted an emission peak at or between 312 and 311 nm.

16. The system of claim 15, wherein the continuous emission band has a full width half maximum of about 0.1 to 2 nm.

17. A method for conducting psoriasis phototherapy, comprising providing UV light from a nanostructure UV light emitting device onto the skin of a human subject having psoriasis, wherein the UV light emitting device emits UV light in a wavelength range suitable for performing psoriasis phototherapy.

18. The method of claim 17, wherein the nanostructure UV light emitting device comprises at least one of a nanoparticle and a nanowire UVA light emitting device, the method further including:

providing UV excitation radiation of a first peak wavelength from a UV excitation source to the UV light emitting device; and

emitting the UV light having a second UV peak wavelength longer than the first peak wavelength from the UV light emitting device in response to the provided UV excitation radiation.

19. The method of claim 18, wherein the UV light is emitted in an emission peak at or between 312 and 311 nm.

20. The method of claim 19, wherein the continuous emission band has a full width half maximum of about 0.1 to 2 nm.

21. A system for conducting hair growth phototherapy, comprising:

a chamber; and

a nanostructure UV light emitting device disposed in the chamber; wherein the UV light emitting device emits UV light in a wavelength range suitable for inducing hair growth.

22. The system of claim 21, further comprising a hair growth assistance chemical which undergoes a hair growth stimulating reaction when exposed to the UV light.

23. The system of claim 21, wherein the nanostructure UV light emitting device comprises at least one of a nanoparticle and a nanowire UVA light emitting device, the system further comprising a UV excitation source which is positioned to provide UV excitation radiation of a first peak wavelength onto the nanostructure UV light emitting device to cause the nanostructure UV light emitting device to emit UVA light having a second UVA peak wavelength longer than the first peak wavelength.

24. A method for conducting hair growth phototherapy, comprising providing UV light from a nanostructure UV light emitting device onto the skin of a human subject desiring hair growth, wherein the UV light emitting device emits UV light in a wavelength range suitable for inducing hair growth.

25. The method of claim 24, further comprising applying a hair growth assistance chemical to the skin of the human subject, wherein the hair growth assistance chemical stimulates hair growth upon exposure to UV light.

26. The method of claim 24, wherein the nanostructure UV light emitting device comprises at least one of a nanoparticle and a nanowire UVA light emitting device, the method further comprising:

providing UV excitation radiation of a first peak wavelength from a UV excitation source to the UV light emitting device; and

emitting the UV light having a second UV peak wavelength longer than the first peak wavelength from the UV light emitting device in response to the provided UV excitation radiation.

27. The method of claim 24 wherein the UV light is provided only onto the scalp of the human subject.

28. A system for conducting tooth whitening phototherapy, comprising:

a chamber;

a tooth whitening agent; and

a nanostructure light emitting device, that emits at least one of UV or blue light, disposed in the chamber; wherein the light emitting device emits at least one of UV or blue light in a wavelength range suitable for performing tooth whitening phototherapy in conjunction with the tooth whitening agent.

29. The system of claim 28, wherein the chamber is a mouthpiece.

30. The system of claim 28, wherein the nanostructure UV light emitting device comprises at least one of a nanoparticle and a nanowire UVA light emitting device, the system further comprising a UV excitation source which is positioned to provide UV excitation radiation of a first peak wavelength onto the nanostructure UV light emitting device to cause the nanostructure UV light emitting device to emit UVA light having a second UVA peak wavelength longer than the first peak wavelength.

31. A method for conducting tooth whitening phototherapy, comprising providing light from a nanostructure light emitting device that emits at least one of UV or blue

light, onto at least one tooth of a human subject, wherein the at least one tooth has been at least partially coated with a tooth whitening agent, and further wherein the light emitting device emits at least one of UV or blue light in a wavelength range suitable for performing tooth whitening phototherapy in conjunction with the tooth whitening agent.

32. The method of claim 31, wherein the tooth whitening agent comprises carbamide peroxide.

33. The method of claim 32, wherein the nanostructure UV light emitting device comprises at least one of a nanoparticle and a nanowire UVA light emitting device, the method further comprising:

providing UV excitation radiation of a first peak wavelength from a UV excitation source to the UV light emitting device; and

emitting the UV light having a second UV peak wavelength longer than the first peak wavelength from the UV light emitting device in response to the provided UV excitation radiation.

34. A system for conducting lupus phototherapy, comprising:

a chamber; and

at least one UV emitting LED disposed in the chamber; wherein the at least one UV emitting LED emits UV light in a wavelength range suitable for performing lupus phototherapy.

35. The system of claim 34, wherein the chamber comprises a bed or a booth.

36. The system of claim 34, wherein the at least one UV emitting LED is a UVA light emitting LED.

37. The system of claim 34 comprising a plurality of UV emitting LEDs.

38. The system of claim 34, wherein the UV light comprises light with a wavelength of about 340 nm to about 400 nm.

39. The system of claim 34, wherein the at least one UV emitting LED is adapted to provide UV light having an adjustable wavelength range.

40. The system of claim 39, further including a cooling means for cooling at least one UV emitting LED to adjust the wavelength range of the UV light.

41. A method for conducting lupus phototherapy, comprising providing UV light from at least one UV emitting LED onto the skin of a human subject having lupus, wherein the at least one UV emitting LED emits UV light in a wavelength range suitable for performing lupus phototherapy.

42. The method of claim 41, wherein the UV light comprises light with a wavelength of about 340 nm to 400 nm.

43. The method of claim 41, further comprising adjusting the wavelength range of the UV light during the phototherapy.

44. A system for conducting psoriasis phototherapy, comprising:

a chamber; and

at least one UV emitting LED disposed in the chamber; wherein the at least one UV emitting LED emits UV light in a wavelength range suitable for performing psoriasis phototherapy.

45. The system of claim 44, wherein the UV light is emitted in an emission band with a peak at or between 312 and 311 nm.

46. The system of claim 45, wherein the emission band has a full width half maximum of about 0.1 to 2 nm.

47. A method for conducting psoriasis phototherapy, comprising providing UV light from at least one UV emitting LED onto the skin of a human subject having psoriasis, wherein the at least one UV emitting LED emits UV light in a wavelength range suitable for performing psoriasis phototherapy.

48. The method of claim 47, wherein the UV light is emitted in an emission band with a peak at or between 312 and 311 nm.

49. The method of claim 48, wherein the emission band has a full width half maximum of about 0.1 to 2 nm.

50. A system for conducting hair growth phototherapy, comprising:

a chamber; and

at least one UV emitting LED disposed in the chamber; wherein the at least one UV emitting LED emits UV light in a wavelength range suitable for inducing hair growth.

51. The system of claim 50, further comprising a hair growth assistance chemical which undergoes a hair growth stimulating reaction when exposed to the UV light.

52. A method for conducting hair growth phototherapy, comprising providing UV light from at least one UV emitting LED onto the skin of a human subject desiring hair growth, wherein the skin has been coated with a hair growth assistance chemical.

53. The method of claim 52, wherein the UV light is provided only onto the scalp of the human subject.

54. A system for conducting tooth whitening phototherapy, comprising:

a chamber;

a tooth whitening agent; and

at least one LED, that emits at least one of UV or blue light, disposed in the chamber; wherein the LED emits at least one of UV or blue light in a wavelength range suitable for performing tooth whitening phototherapy in conjunction with the tooth whitening agent.

55. The system of claim 54, wherein the chamber is a mouthpiece.

56. A method for conducting tooth whitening phototherapy, comprising providing light from an LED that emits at least one of UV or blue light, onto at least one tooth of a human subject, wherein the at least one tooth has been at least partially coated with a tooth whitening agent, and further wherein the LED emits at least one of UV or blue light in a wavelength range suitable for performing tooth whitening phototherapy in conjunction with the tooth whitening agent.

57. The method of claim 56, wherein the tooth whitening agent comprises carbamide peroxide.